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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/411,629	10/01/1999	WATARU NARA	0557-4784-2	8585
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OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER TRAN, NHAN T	
			ART UNIT 2615	PAPER NUMBER
DATE MAILED: 08/26/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/411,629

Applicant(s)

NARA, WATARU

Examiner

Nhan T. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 5-8 and 13-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 5-8 and 13-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments filed 6/16/2005 have been fully considered but they are not persuasive.

The Applicant submits that Bilhan '607 reference does not have a valid date against the present claimed invention since Bilhan's parent applications 09/353,919 (now, US Patent No. 6,750,910) and 60/092,912 do not disclose the "black shading correction means" as disclosed in Bilhan '607 which the Office Action relies upon.

In response, the Examiner respectfully does not agree with the Applicant. The **base or fundamental teaching** of Fig. 7 in Bilhan '607 is supported by both applications 09/353,919 (US Patent No. 6,750,910) and 60/092,912. Specifically, the black shading correction means as disclosed in col. 5, lines 45-67 of Bilhan '607 is fully supported by US Patent No. 6,750,910 in col. 2, lines 35-55 and provisional application 60/092,912 in the last paragraph on page 2 to third paragraph on page 3. Although the symbols used in equation (1) in Bilhan '607 are different from that used in US Patent No. 6,750,910 and provisional application 60/092,912, they present the same subject matter concerning a new black reference level for black shading correction calculated by moving average of the black reference values. The equivalence is clearly seen as:

$OB_{desired}$  corresponds to B (desired optical black level)

$OB_{average}$  corresponds to A (average ADC output for optical black cells)

$DAC_{730(n-1)}$  corresponds to P\_FDAC (previous fine DAC register value)

$DAC_{730(n)offset}$  corresponds to a new black reference level for updating the fine DAC value (e.g., the offset is immediately corrected by writing the quantity of the equation (1) to the fine DAC register).

At least in view of the above, the Examiner submits that Bilhan '607 has a valid date of provisional application 60/092,912 filed 7/15/1998. Therefore, the previous rejection is maintained.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 5-7 & 13-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Bilhan et al (US 6,791,607).

Regarding claim 5, Bilhan discloses an image reading apparatus (Figs. 5 & 7 and abstract) comprising:

photoelectric conversion means (CCD) for photoelectrically converting image information obtained from optically reading an original image, line by line, and outputting an

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image signal, the photoelectrically converting means having optically shielding means (optical black pixels) provided at a portion thereof (see Fig. 6 and col. 4, lines 20-40);

black shading correction means (circuitry shown in Figs. 5 & 7) for correcting the image signal using a black reference level ( $OB_{average}$  output from digital average 512), the black reference level being obtained from the portion of the electrically converting means for each line during an operation of the reading of the original image, wherein the black reference level used by the black shading correcting means for each is obtained using black reference values (values of optical black pixels), each of the black reference values being data of the portion of the photoelectrically converting means for a respective one of a plurality of lines, wherein the black reference level ( $OB_{average}$  output from digital average 512) is a moving average of the black reference values (values of optical black pixels). See col. 4, line 66 – col. 5, line 67.

Regarding claim 6, as clearly seen in col. 4, line 66 – col. 5, line 2 and col. 5, lines 43-50, the black reference level for a respective line is an average of pixel values is a main scan direction (Fig. 6), the moving average is obtained from moving averaging, in a sub-scan direction, the black reference values (the number of lines to be averaged is inherently performed in sub-scan direction).

Regarding claims 7, 13 & 15, see the Examiner's analysis in claim 5.

Regarding claim 14, see the Examiner's analysis in claim 6.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 8, 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bilhan et al (US 6,791,607) in view of Barron et al (US 5,659,355).

Regarding claim 8, Bilhan teaches that the imaging apparatus is *highly programmable* and the user can program *the optical black pixels per line* and *the number of lines to be averaged* by calibration logic 714 (col. 5, lines 46-50). However, Bilhan is *silent* about the number of lines comprising the current line and preceding lines. Barron teaches averaging of black reference values by using a plurality of lines that comprises the current line and preceding lines (e.g., first 4 lines including preceding 3 lines and current 4<sup>th</sup> line, or first 8 lines including preceding 7 lines and current 8<sup>th</sup> line, etc...) so that a more accurate calculation for black level compensation is established. See Barron in col. 3, line 60 – col. 4, line 23.

Therefore, it would have been obvious to one of ordinary skill in the art to program the highly programmable imaging apparatus in Bilhan to average a predetermined number of lines that comprises the current line and preceding lines to obtain a more accurate calculation for the black level correction.

Regarding claim 16, see the Examiner's analysis in claim 8.

Regarding claims 17-20, see the Examiner's analysis in claim 8. Furthermore, the combined teachings of Bilhan and Barron would also teach the data of each of the predetermined number of immediately antecedent lines comprising an average taken through a relevant line since optical black pixels in each line are averaged before the total number of lines to be averaged again (see Bilhan in col. 4, line 66 – col. 5, line 2 and col. 5, lines 46-50).

### *Conclusion*

**4. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhan T. Tran whose telephone number is (571) 272-7371. The examiner can normally be reached on Monday - Thursday, 7:30am - 5:30pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NT.

  
DAVID L. OMETZ  
SUPERVISORY PATENT  
EXAMINER